

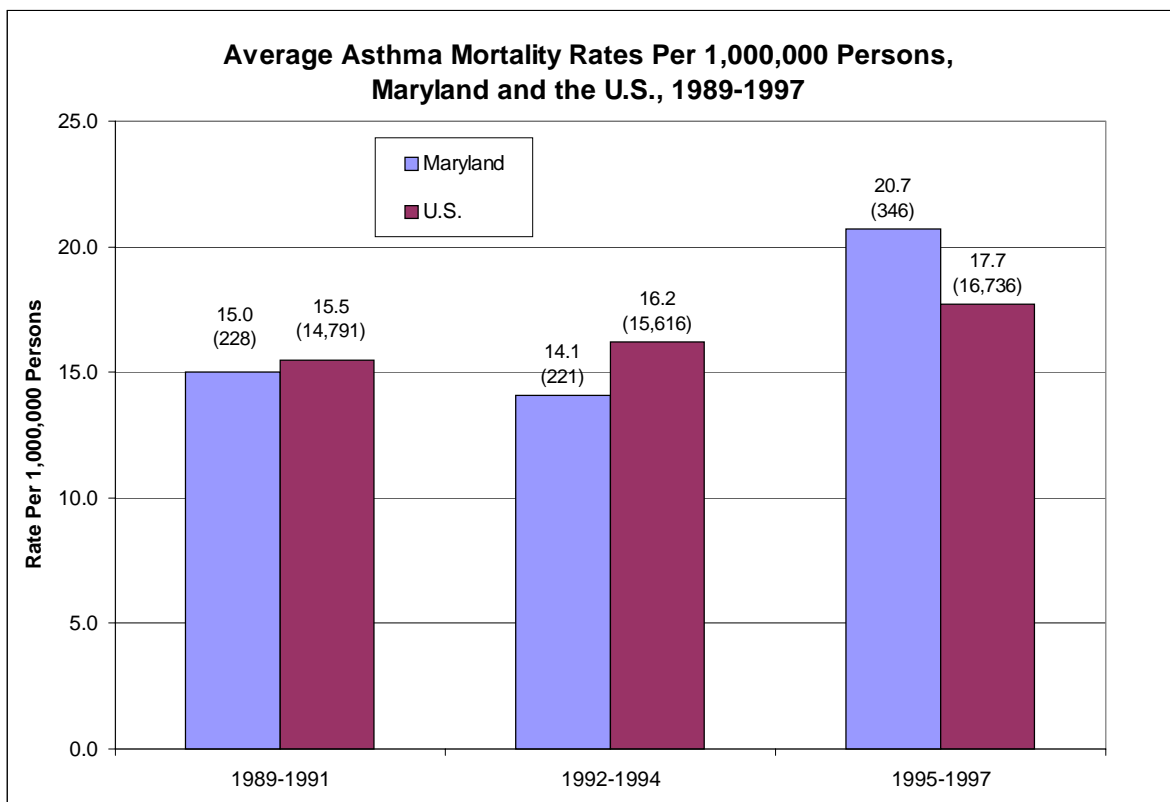


ENVIRONMENTAL HEALTH

Environmental Justice – Asthma Mortality

Definition

“Environmental Justice” was defined in 1999 by the Maryland Advisory Council on Environmental Justice as equal protection from environmental hazards for all people regardless of race, income, culture, and social class. Environmental justice also means equal access to socio-economic resources so that all people can provide for their livelihood and health. Additionally, environmental justice means the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic or socio-economic groups, should bear a disproportionate share of negative environmental consequences resulting from industrial, land-use planning and zoning, municipal, and commercial operations or the execution of federal, state, local or municipal programs and policies. Finally, for the purposes of this module, the definition will be extended to include children as a group of people deserving of equal protection, equal access, fair treatment, and meaningful involvement as described above.



Note: Age-Adjusted to the 1970 U.S. Population.

Source: Not provided.

Problem

The level of data needed to describe a population or subgroup in terms of its potential for environmental justice problems is daunting. Information is needed on demographic, geographic, economic, health status, and environmental risk factors. The number of relevant variables in each category is considerable. The Environmental Protection Agency has recommended a list of 45 such variables to be used in assessing environmental justice concerns. Moreover, the databases from which this information may be abstracted are widely disparate in terms of quality and accessibility by researchers *if they exist at all*. In many cases the data needed to demonstrate an environmental justice problem are simply not collected or are done so on an irregular basis by a multitude of agencies. Many of these agencies have no historical basis for data sharing, and therefore, no skills or experience in linking seemingly disparate data for a new purposes. While advances in information technology have facilitated data analysis using multiple software platforms, the base variable definitions and parameters are often incompatible.

Geographic information systems (GIS) technology holds great promise as a revolutionary tool for presenting health and risk factor information, especially for evaluating environmental justice concerns. Simply put, it is usually much easier to understand environmental health data when displayed visually against a map than it is in tabular or graphical form. Although still in its early stages, GIS technology also offers the potential for conducting advanced statistical analysis to draw valid associations between environmental risk factors and health events based on the geographic coordinates of exposures and outcomes. The expertise needed to visually plot environmental health data is expanding quickly in environmental and public health agencies. However, the more advanced analytical skills are still relatively uncommon.

Asthma is an example of a public health concern that has many of the components of a potential environmental justice problem. It also has all of the data challenges described above for evaluating environmental justice concerns. Asthma is a health problem that is exacerbated by indoor and outdoor air pollution, and certain allergens. Research has shown the prevalence of asthma, the incidence of acute asthma attacks, and the number of asthma-related deaths to be higher in inner cities among children, older adults, and the poor. Data on asthma are collected by a multitude of local, state, federal, private, and volunteer agencies as well as academia. No single agency is repository for this information. Fewer agencies collect data on environmental risk factors which may contribute to asthma. However, the data are collected primarily on a regional basis and, therefore, they are not geared for analyses at the community level.

Determinants

Research indicates a trend toward increasing asthma-related mortality in the U.S. and in Maryland. The list of suspected risk factors for asthma continues to expand. The effects of exposure to molds, dust mites, cockroaches, ozone, sulfur and nitrogen oxides, organic solvents, and other indoor and outdoor air pollutants are the subjects of ongoing worldwide research. The effects of various medical self-management practices and absence of adequate health care coverage are also being investigated. In fact, the definition of asthma for the purposes of coding illness and death in medical and vital records has been studied for decades.

While a great deal of research has been conducted on risk factors associated with asthma, all of this data is not necessary to begin evaluating asthma from an environmental justice perspective. The most basic information needed that is readily available to public health agencies is age, race, location of residence, socio-economic status, and mortality. Therefore, these variables will comprise the core determinants of an evaluation of asthma as an environmental justice problem.

Information is available to State public health investigators through the Department of Health and Mental Hygiene Vital Statistics Administration, the U.S. Census Bureau, and the National Center for Health Statistics. With the help of interested and motivated community groups, health officials can demarcate areas of concern with regard to asthma mortality, thereby eliminating the need to rely on less meaningful or possibly invalid boundaries such as census tracts.

Objective 1 - To develop public health data that are useful for addressing environmental justice concerns. Asthma mortality and its relationship to geography, race, and socio-economic status will be used as a demonstration.

Objective 2 - To demonstrate the use of geographic information systems technology as a tool for the production of public health data that are useful for addressing environmental justice concerns.

Action Steps

The Department of Health and Mental Hygiene will:

- ⇒ Obtain geographic information systems software and develop proficiency in its application to environmental health analyses.
- ⇒ Work with the Baltimore Urban League Environmental Project to identify specific geographic areas of concern with regard to asthma mortality.
- ⇒ Obtain data on asthma mortality in the U.S. and Maryland for the years 1989 through 1997.
- ⇒ Work with the Baltimore Urban League Environmental Project to analyze data and provide visual and statistical demonstrations of asthma mortality in Maryland.
- ⇒ Work with the Baltimore Urban League Environmental Project and will seek an appropriate public forum to communicate its methods and findings.

Partners

Baltimore Urban League Environmental Project • Community and Public Health Administration, DHMH • Environmental Health Risk Assessment Program • Maryland Department of the Environment (MDE) • Maryland Department of Health and Mental Hygiene (DHMH) • Maryland Local Health Departments • Office of Environmental Health Coordination, DHMH • Technical and Regulatory Services Administration, MDE

Related Reports

Maryland Advisory Council on Environmental Justice. (1999, November). *Environmental justice in the state of Maryland.*

Cross-Reference Table for Environmental Health	
<i>See Also</i>	
Howard County	222